

**REMARKS/ARGUMENTS**

In response to the Office Action dated October 3, 2003, claims 11, 21 and 27 are amended, and claims 28-31 are submitted. Claims 1-31 are now active in this application. No new matter has been added.

The indication that claims 16 and 17 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims is acknowledged and appreciated.

**AMENDMENTS TO CLAIMS 11 AND 21**

Claims 11, 21 and 27 are amended to recite a “computer program product” instead of a “computer program”. No other change of scope is made.

**REJECTION OF CLAIMS UNDER 35 U.S.C. § 102 AND § 103**

I. Claims 1-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reisfeld (USPN 6,301,496).

The rejections are respectfully traversed.

With regard to independent claim 1, the Examiner contends that Reisfeld teaches a “method for fitting a surface to a point group using a computer” comprising the steps of “judging reliability of the point group (column 24, lines 16-31) and fitting the surface to the point group based on a result of the judgment of reliability obtained in the first step (column 28, lines 29-53)”. The Examiner admits that Reisfeld does not disclose “changing the method for fitting the surface to the point group based on a result of the judgment of reliability obtained...”, as he contends “it would have been obvious for Reisfeld to “change the method of fitting the surface to

the point group because the level of reliability determines how the transparency technique is used in the construction of the surface (column 24, lines 29-33)".

In the present invention, the surface fit to the point group is changed/modified in accordance with the reliability of the point group. In contrast, in Reisfeld, the surface that is fit to the point group is not changed, but areas of surface 132 that are covered by less-reliable grid points, such as an area 140 of FIG. 6 of Reisfeld, *are displayed as semi-transparent areas or at different levels of semi-transparency*, preferably using  $\alpha$ -blending. That is, the surface remains unchanged, but the visibility of areas that are covered by less-reliability grid points is varied in accordance with how "less-reliable" the grid points are. There is no suggestion in Reisfeld to change the method of fitting the surface to the point group based upon the reliability of the point group. This is what is disclosed in the present application, not Reisfeld.

It should be recognized that the fact that the prior art could be modified so as to result in the combination defined by the claims at bar would not have made the modification obvious unless the prior art suggests the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986).

It is Applicants' position that the Examiner has not articulated any logical reason why one having ordinary skill in the art would have been motivated to modify the arrangement/methodology of Reisfeld to arrive at the claimed invention. In particular, it is not apparent whence stems the requisite motivation for one having ordinary skill in the art to zero in on the areas of surface 132 of Reisfeld that are displayed as semi-transparent areas, or at different levels of semi-transparency in correspondence to the reliability of the grid points, then convert such areas to be a fitting of the surface to these grid points based on the reliability of the grid points, which would eliminate the need to display such areas of surface 132 as semi-transparent areas, or at different levels of semi-

transparency in correspondence to the reliability of the grid points. In this regard, it must be remembered that a proposed modification cannot render the prior art unsatisfactory for its intended purpose (see the second to the last paragraph in MPEP § 2143.01).

The only apparent motivation of record for the proposed modification of the arrangement of Reisfeld to arrive at the claimed inventions is found in Applicants' disclosure which, of course, may not properly be relied upon to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 227 1 USPQ2d 1593 (Fed. Cir. 1987).

Similar argument is applicable to each of independent claims 4, 10 and 11, as the Examiner contends "it would have been obvious for Reisfeld to have a modifying section for varying a degree of the fitting the surface to the point group because the level of reliability determines how the transparency technique is used in the construction of the surface (column 24, lines 29-33)" (claim 4), "it would have been obvious for Reisfeld to modify[ing] prepared data which represents a three-dimensional form because the level of reliability determines how the transparency technique is used in the construction of the surface (column 24, lines 29-33)" (claim 10), and "it would have been obvious for Reisfeld to "change the method of fitting the surface to the point group because the level of reliability determines how the transparency technique is used in the construction of the surface (column 24, lines 29-33)" (claim 11).

It is, therefore, respectfully submitted that the Examiner has not established the requisite motivation for the proposed modification of Reisfeld to arrive at the invention recited in independent claims 1, 4, 10 and 11 as well as claims 2, 3 and 5-9.

**II.** Claims 12-15 and 18-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maurer et al. (USPN 6,580,811).

The rejections are respectfully traversed.

The Examiner maintains that "the first standard model being previously prepared independently of the obtaining of original data" is the texture information of Maurer. However, the Examiner has not identified exactly where Maurer et al. discloses modifying the texture information based on the obtained data (jets, figures 2, 17). It would seem that the description at column 12, lines 46-50 is that the front view of the three dimensional head model is used to texture map the front of the three dimensional head model and the side view is used for the side of the mode. There is no description that the texture information is modified based on the obtained jets of figures 2, 17.

The above difference between the claimed device and method vis-à-vis the device and method of Maurer et al. undermines the factual determination that Maurer et al. identically describes the claimed inventions within the meaning of 35 U.S.C. § 102. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).

This argument applies to each of independent claims 12, 18, 20 and 21. Applicants, therefore, submit that the imposed rejection of independent claims 12, 18, 20 and 21, as well as dependent claims 13-15 and 19 under 35 U.S.C. § 102 for lack of novelty as evidenced by Maurer et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

**III.** Claims 22-25 and 27 are rejected under 35 U.S.C. § 102(e) as being anticipated by Maurer et al. and claim 26 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Maurer et al.

The rejections are respectfully traversed.

The present invention is directed to modification of a surface or a three-dimensional model based on a point group in partial areas of measured data (three-dimensional data).

In contrast, Maurer et al. describes that image patches are selected depending on the current facial expression of a user and the selected image patches are used to animate an avatar image. As shown in Fig. 16A of the reference, there are prepared the whole facial image (face frame) 130 and plural images for each part. Then, regarding each part, a part that is close to the current facial expression of a user is selected and then is combined with the face frame. According to such a constitution as disclosed in Maurer et al., selection of parts similar to a user's facial expression is merely carried out. This differs from the present invention where a surface or a three-dimensional model that is the base of modification is prepared beforehand for subsequent modification. The object of Maurer et al. is to imitate facial expression and is not to imitate shape.

Thus, independent claims 22-24 and 27, as well as dependent claims 25 and 26, are patentable over Maurer et al.

As to dependent claim 25, this claim defines that modification is performed with respect to a standard model. Maurer et al. is silent with respect to a standard model being used for modification.

In view of the above, the allowance of claims 22-17 is respectfully solicited.

**NEW CLAIMS**

Claims 28-31, each depending from claim 24, are submitted. As claim 24 is patentable over Maurer et al., claims 28-31 are patentable over Maurer et al. also, and their allowance is respectfully solicited.

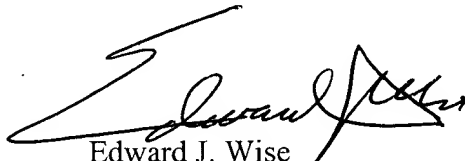
**CONCLUSION**

Accordingly, it is urged that the application, as now amended, is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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